

THE THRELKELD GRANITE Co. LTD.

KESWICK, CUMBERLAND.

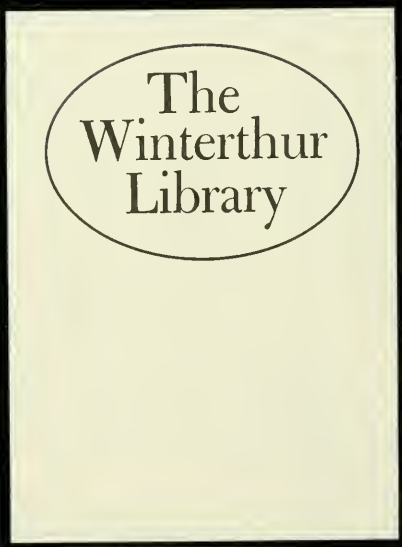


ALBUM

ORNAMENTAL GRANITIC TILES

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Album

OF

Ornamental

GRANITIC TILES

The Threlkeld Granite Co. Ltd.

KESWICK, CUMBERLAND.

1898 Edition.

JAS BROADLEY ACCRINGTON

Preface

IN presenting this, their First Edition of Designs of Ornamental Granitic Tiles, the Threlkeld Granite Co. Limited have pleasure in bringing under the notice of their numerous customers, and Architects and Surveyors in general, the high-class quality of their new manufacture, and hope that the very gratifying support accorded to them in the past, for all their materials, may be extended to the Ornamental Department of their paving business.

After exhaustive experiments, extending over many years, the manufacture of these tiles was in the first instance perfected on the Continent, and the Threlkeld Granite Co. Limited secured the rights for Great Britain to use the special machinery and adopt the means to ensure the successful manufacture and fixing of the various colours.

The tiles have been made and used with conspicuous success on the Continent generally and in India, and the Company have every reason to anticipate that on the tiles becoming known in England, they will be adopted to a considerable extent for the floors and dados of public buildings, hall floors, corridors, and floors in general of private houses.

The colours are at least one-quarter-inch thick, backed up to a full thickness of seven-eighth inch thick of pure granite sand and Portland cement, subjected to a high pressure in steel moulds, after which the tiles are immersed in water for a certain period, to render the material thoroughly sound, in the usual way adopted for a concrete of the highest quality. Being so constructed, the material—after being thoroughly matured—is quite impervious to moisture, is frost-proof, and is eminently adapted for any class of flooring,—particularly where great durability is of utmost importance.

The tiles are manufactured with plain surfaces, and also with the pattern shewn in relief in imitation of mosaic.

Every colour is guaranteed to be permanent, and when necessary—if sufficient time is given for the manufacture,—Architects and others can have the colours arranged to meet their own taste.

After manufacture, the tiles should, if possible, be allowed to mature about four weeks before they are laid, and in order to meet urgent demands the Company keep in stock large quantities of all the designs given herewith.

In comparison with encaustic tiles and mosaic work these granitic tiles have considerable advantage, being about one-third of the cost, and as in no case—even for large designs—are there more than four tiles ($7\frac{7}{8}'' \times 7\frac{7}{8}''$) to complete a pattern, the cost of laying is reduced to a very small item, and the work might be executed by any ordinary workman without fear of failure.

METHOD OF LAYING.

A solid foundation of Portland cement concrete is laid with an even surface to within $1\frac{1}{8}''$ of the finished floor. After this is set, the tile is embedded in a thin layer ($\frac{3}{16}''$ thick) of cement, mixed with fine sand in equal proportions.

In some cases neat cement may be used, but care should be taken that none of the liquid squeezes up on to the surface of the tile. If such, however, should occur, the surface should be immediately washed with a brush and clean water before the cement has time to set. Dry sawdust also cleans well,

All information may be obtained from the Head Offices of the Company, who will be pleased to furnish prices and samples as required.

Arrangements are being made for most of the full patterns to be shewn in several of our large cities and towns, and the Managers of the Company will be glad if Architects and others will kindly favour them by inspecting the tiles.

Following the pages of designs in this book will be found some interesting particulars of the other manufactures of the Company.

GENERAL INFORMATION.

PRICES.—All quotations will be for tiles carriage paid to nearest Railway Station unless otherwise specified.

PACKAGES.—About 40 tiles will be packed in each case, the weight of which will be about 1¾ hundredweight each. Cases will be charged 3/- each and allowed for on return to Threlkeld Station, carriage paid and duly advised in good condition within 14 days.

Threlkeld Granite Company Limited,
Keswick, Cumberland.

Telegraphic Address:
"HARKEWITZ, THRELKELD."

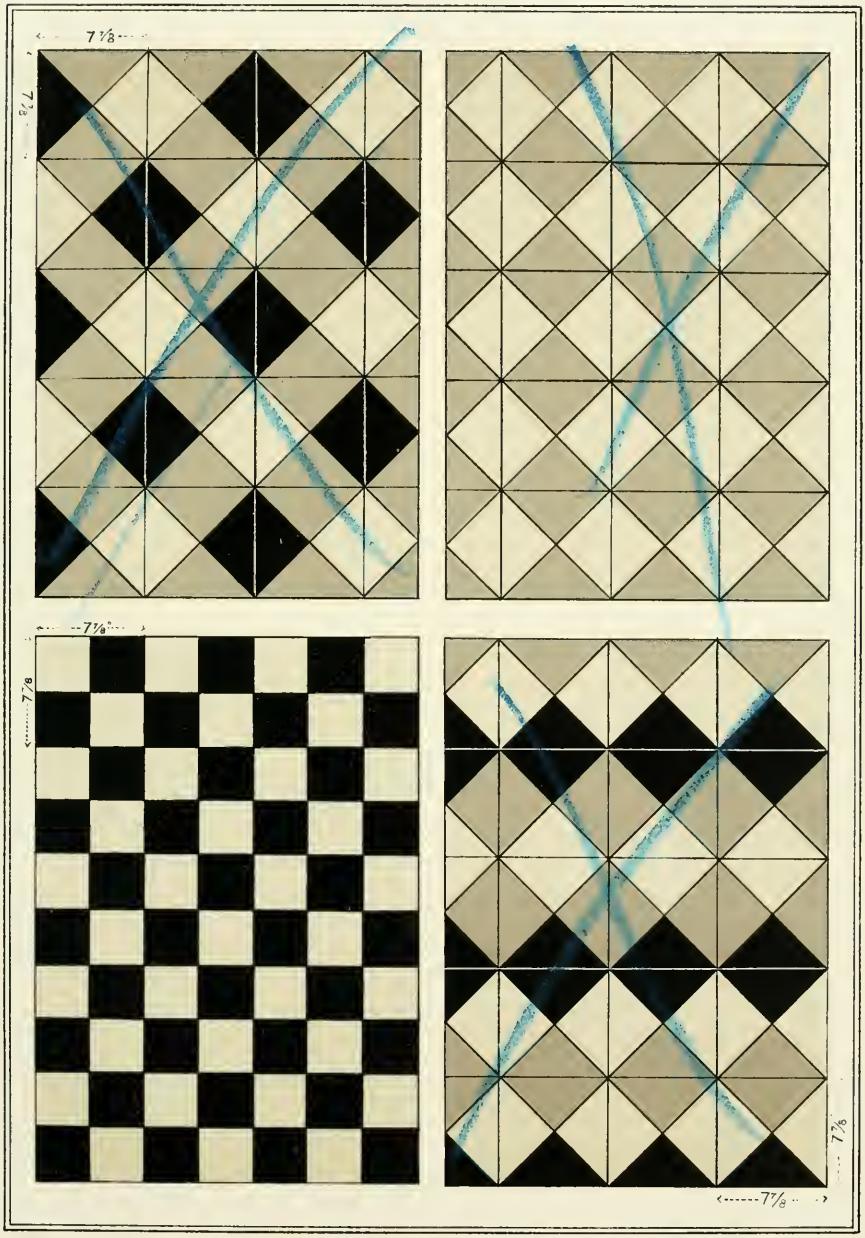
Postal Address:
"KESWICK, CUMBERLAND."

London Office:
65 & 66, CHANCERY LANE, W.C.

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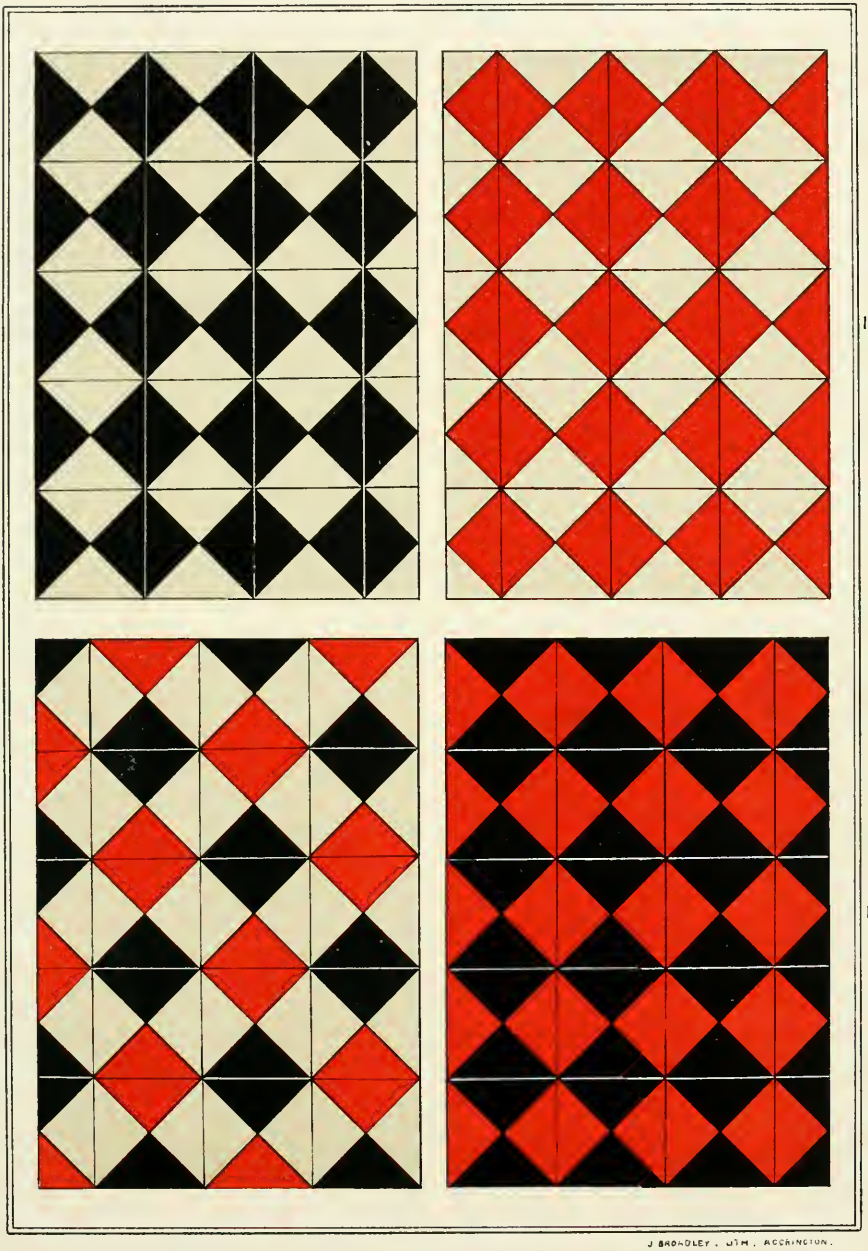
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J. BROADLEY, LITH. AUCKLINGTON

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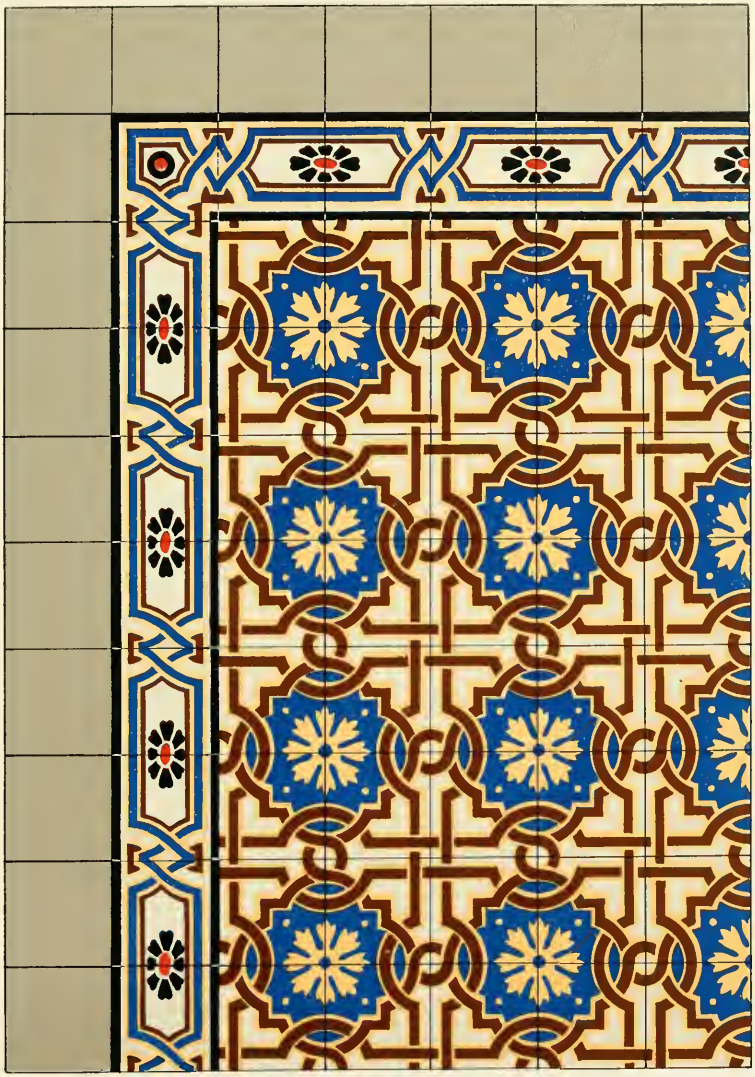
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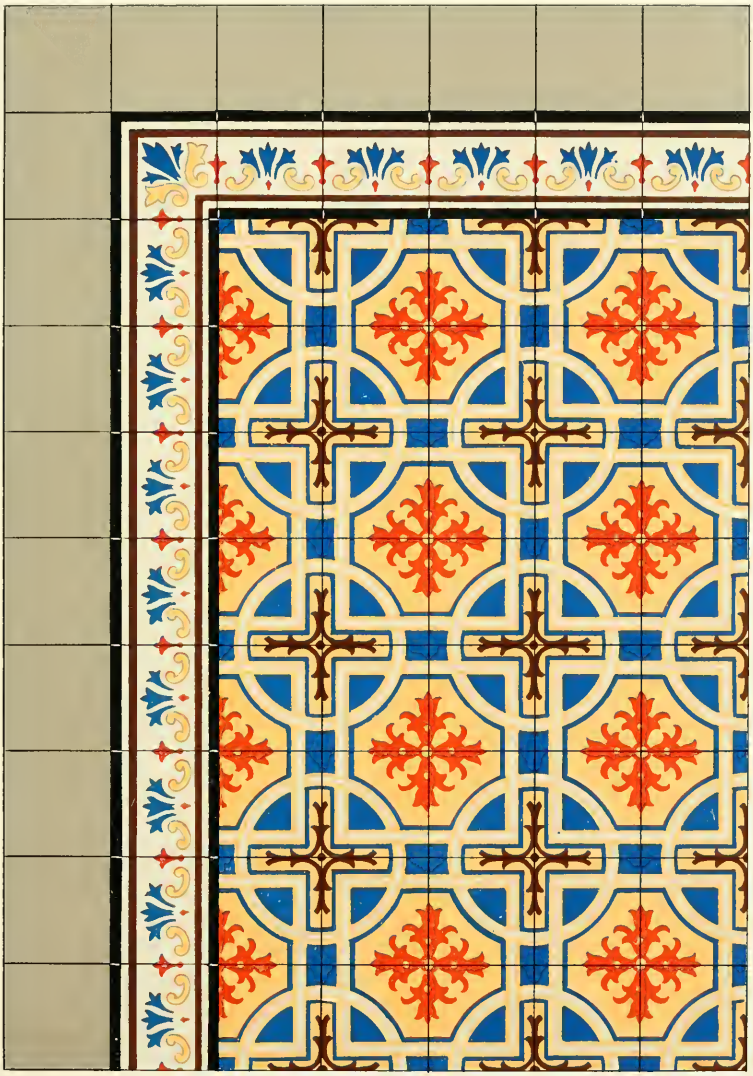
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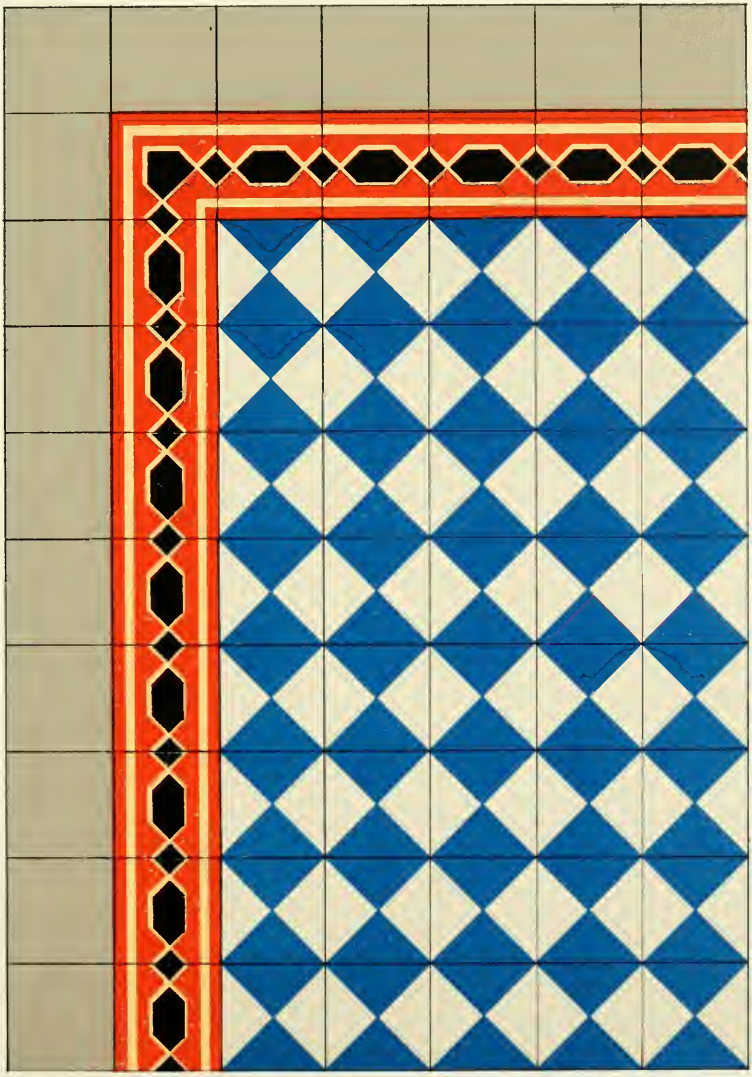
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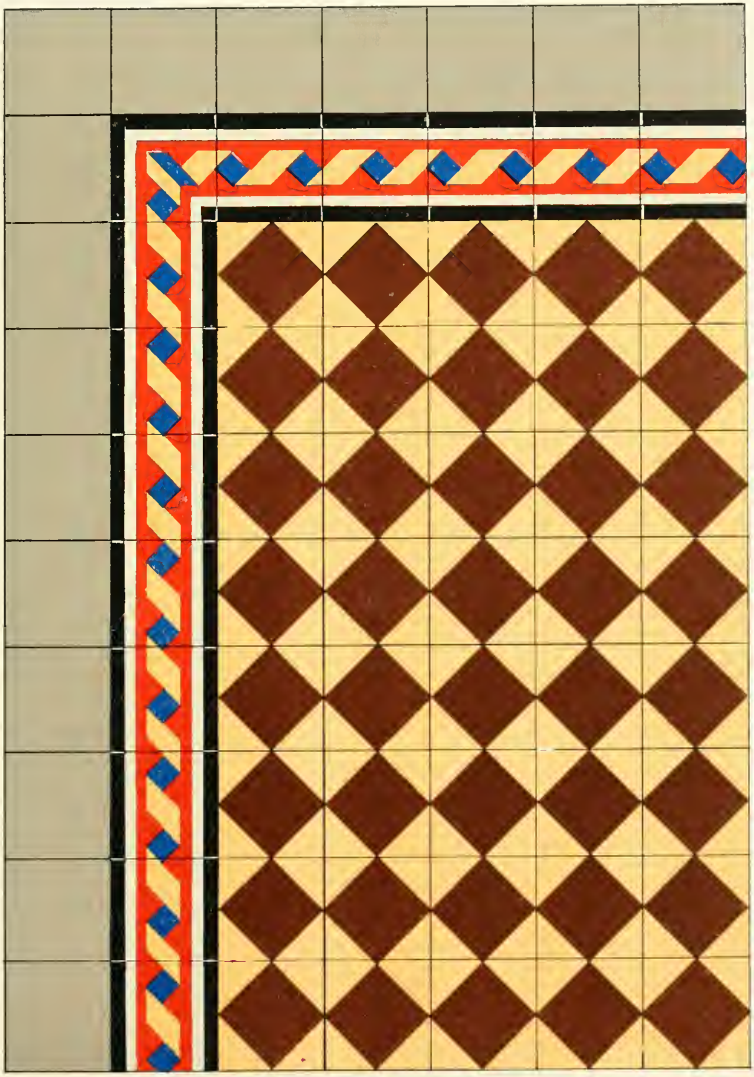
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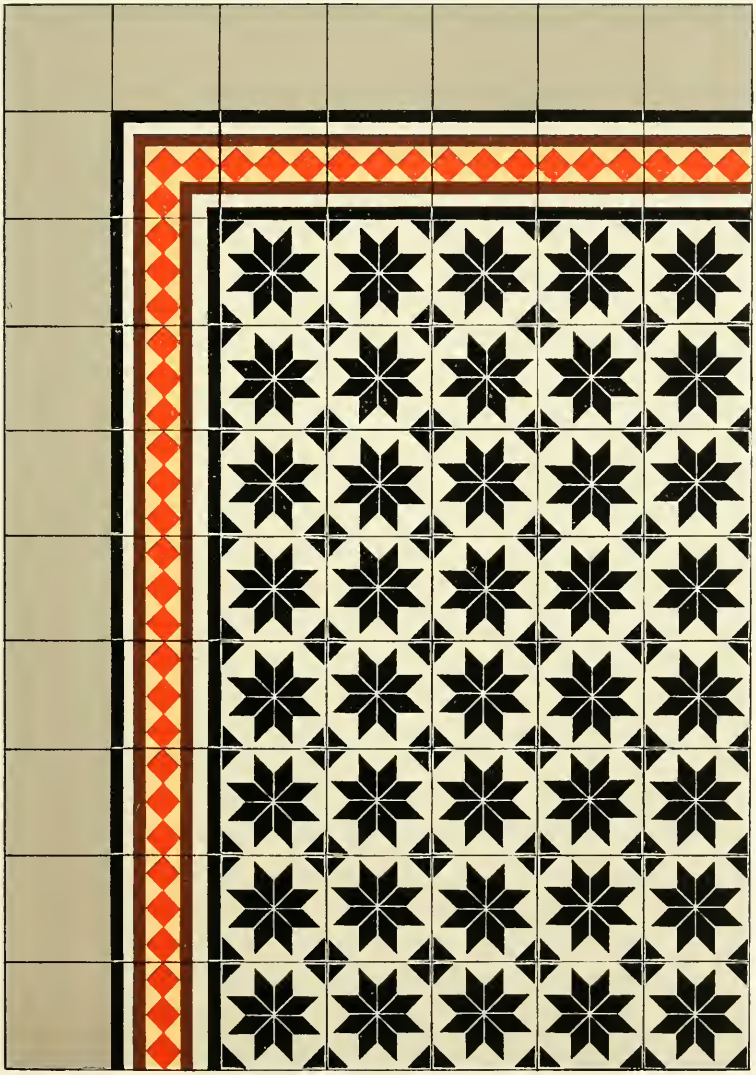
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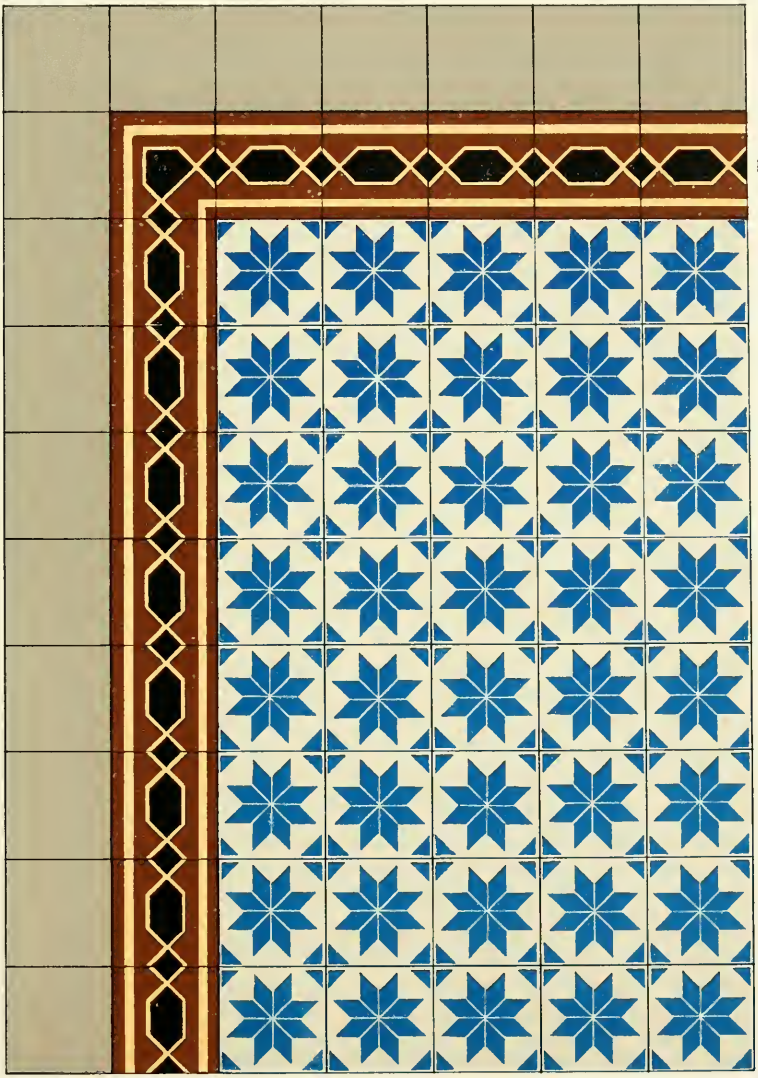
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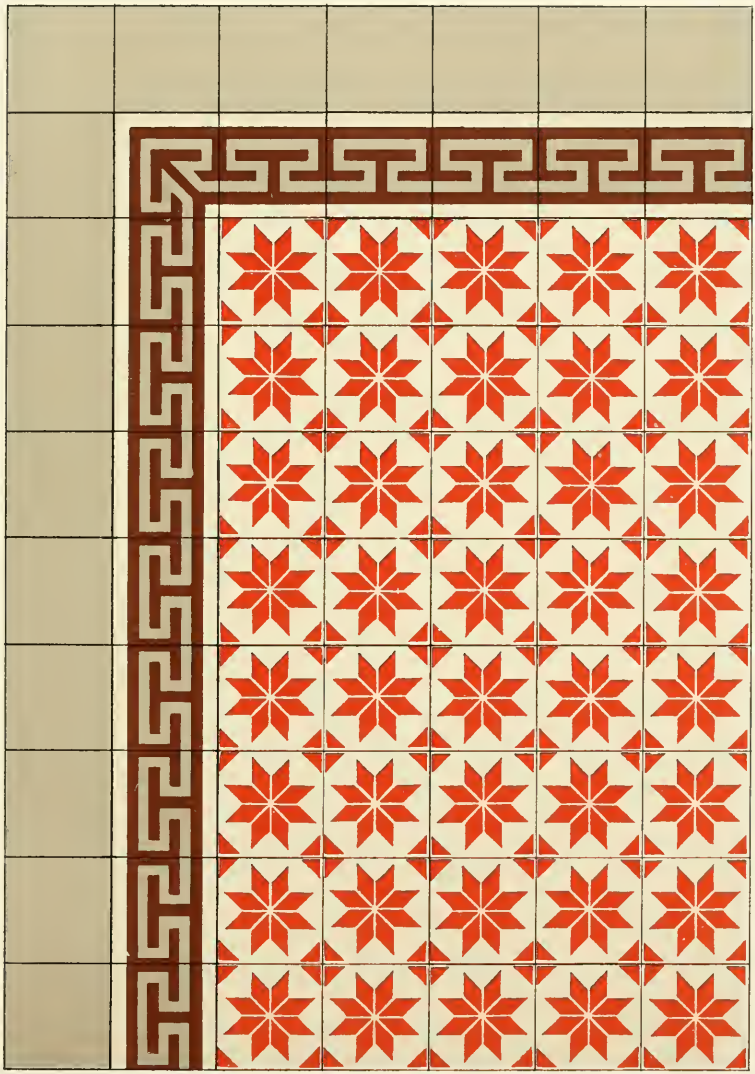
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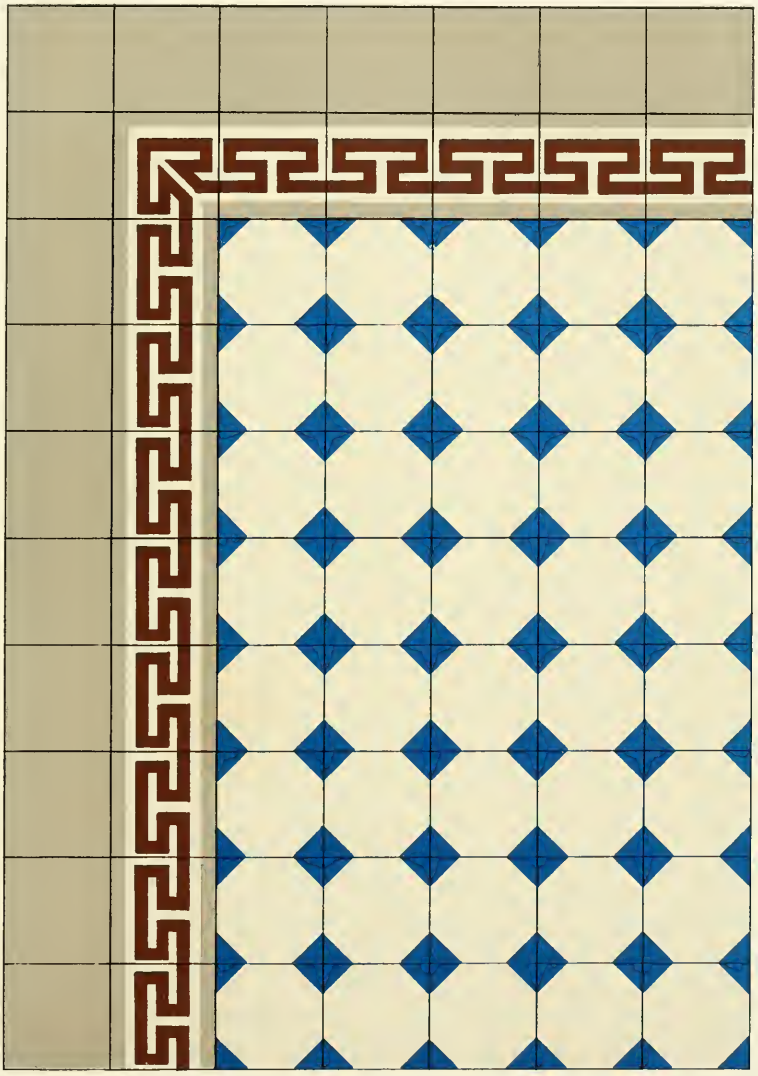
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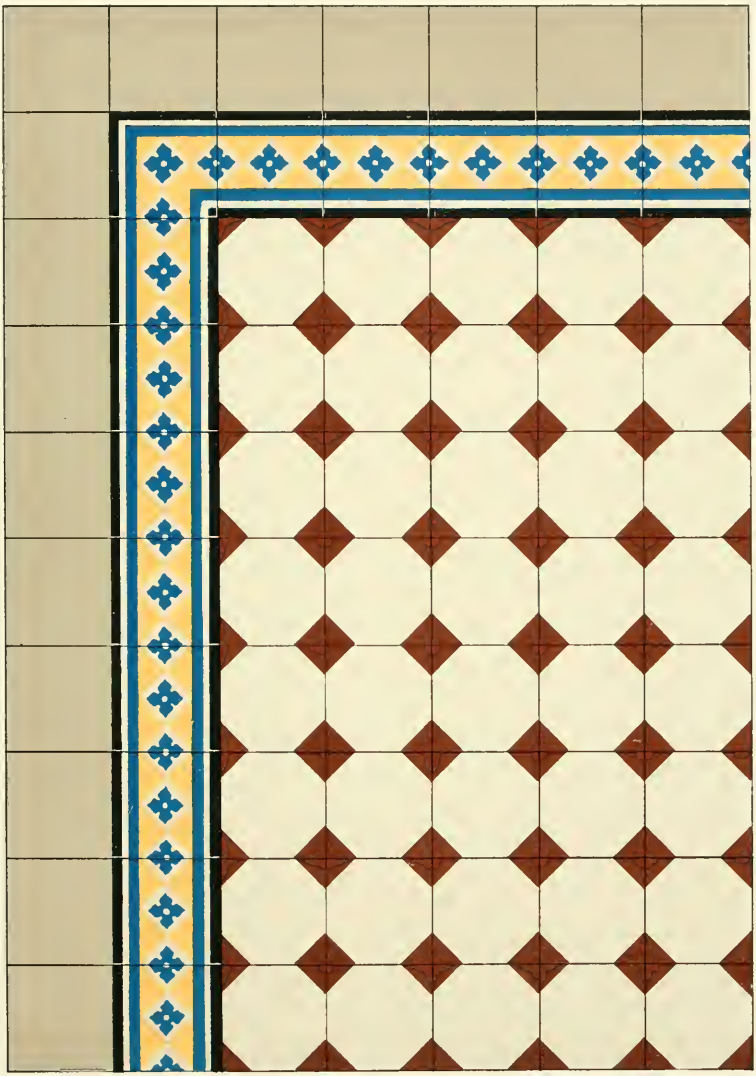
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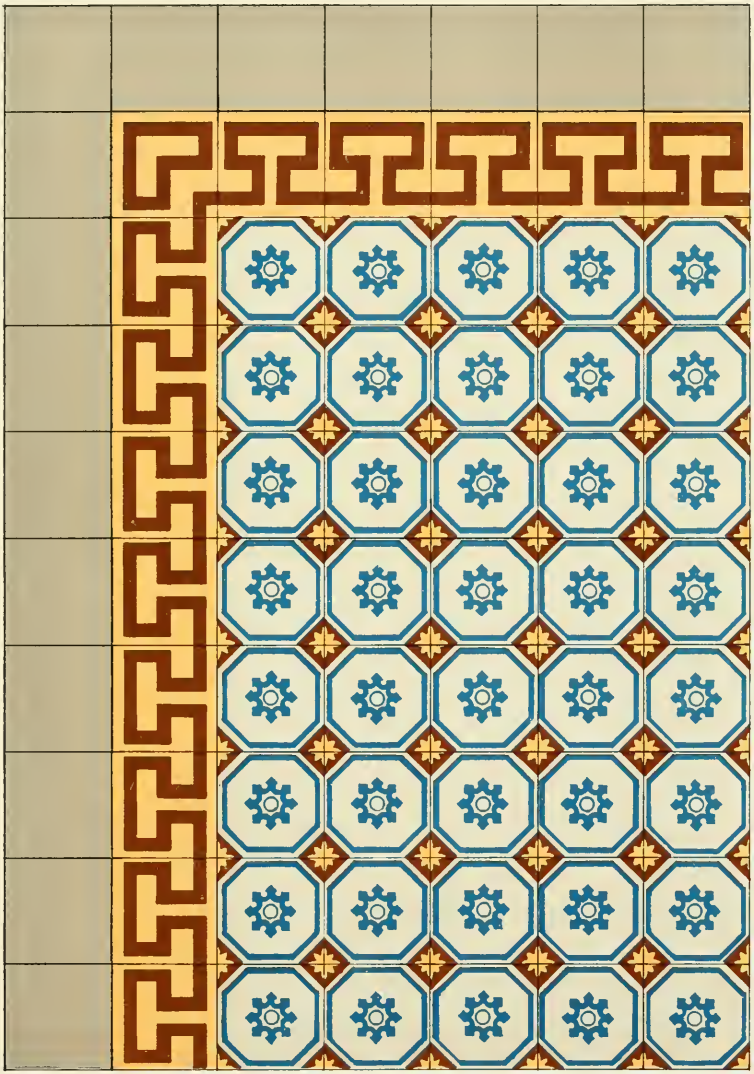
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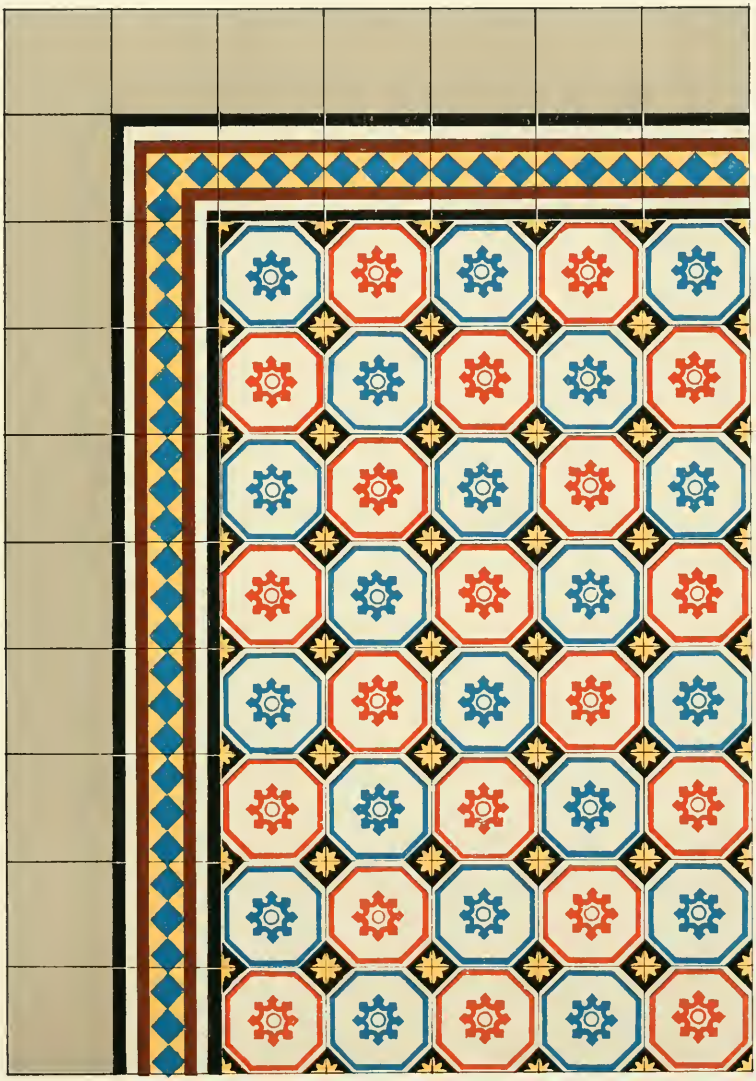
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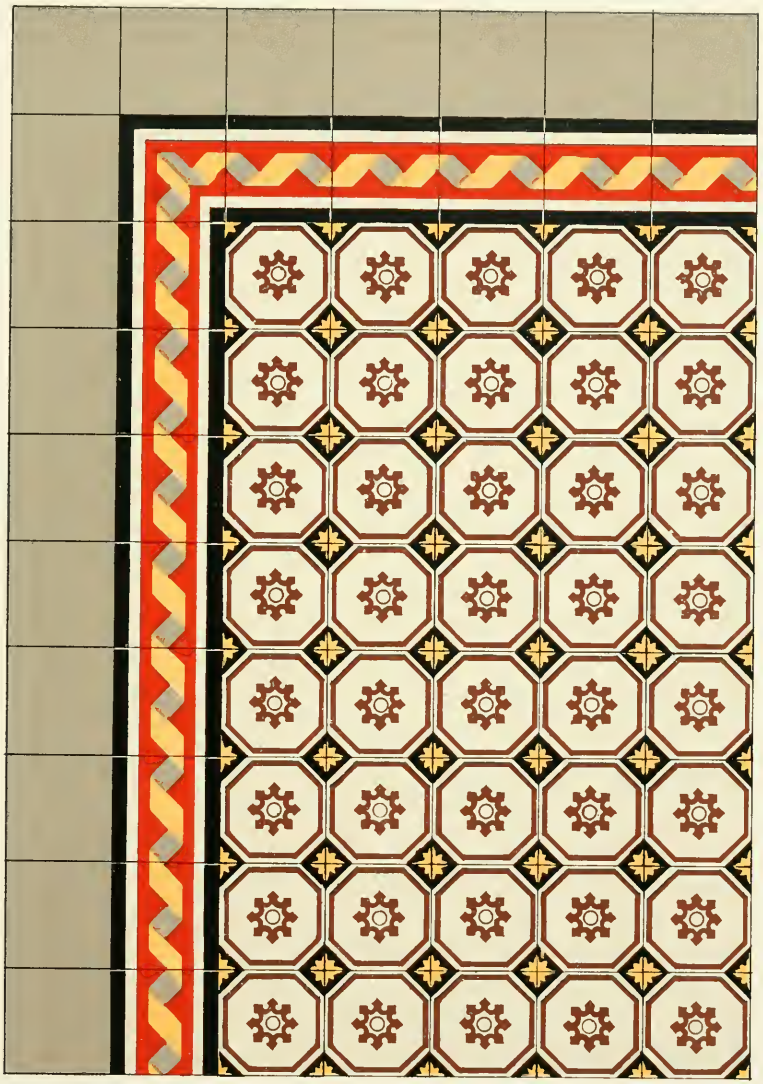
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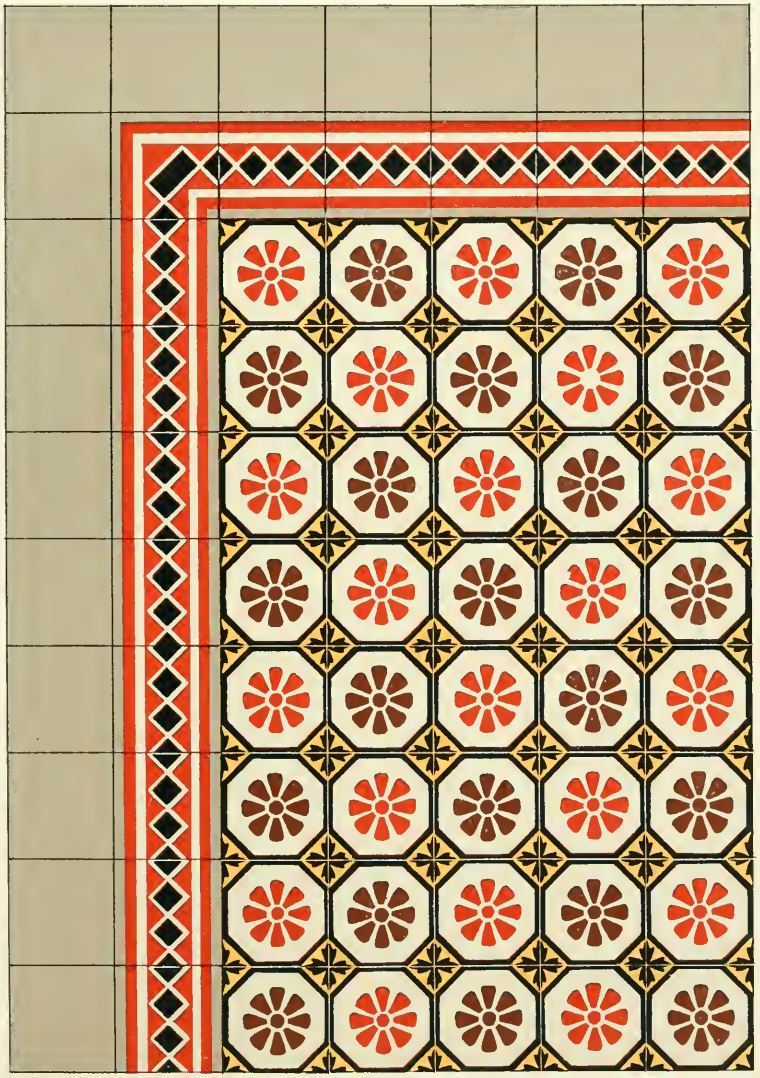
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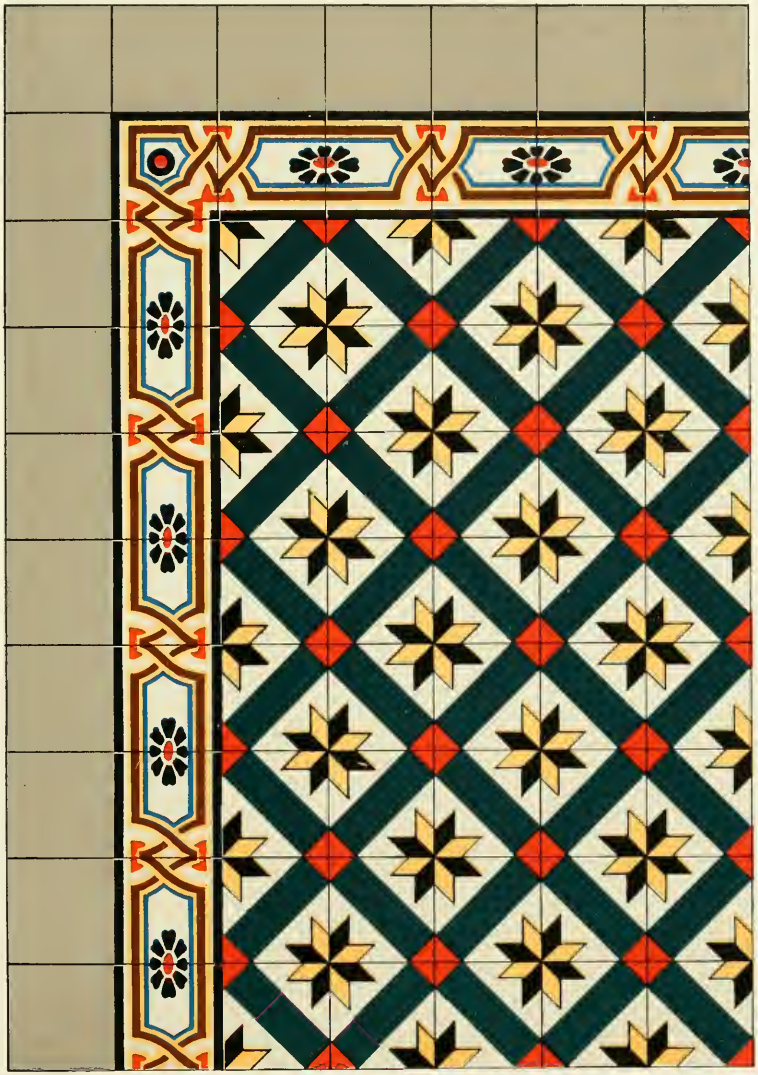
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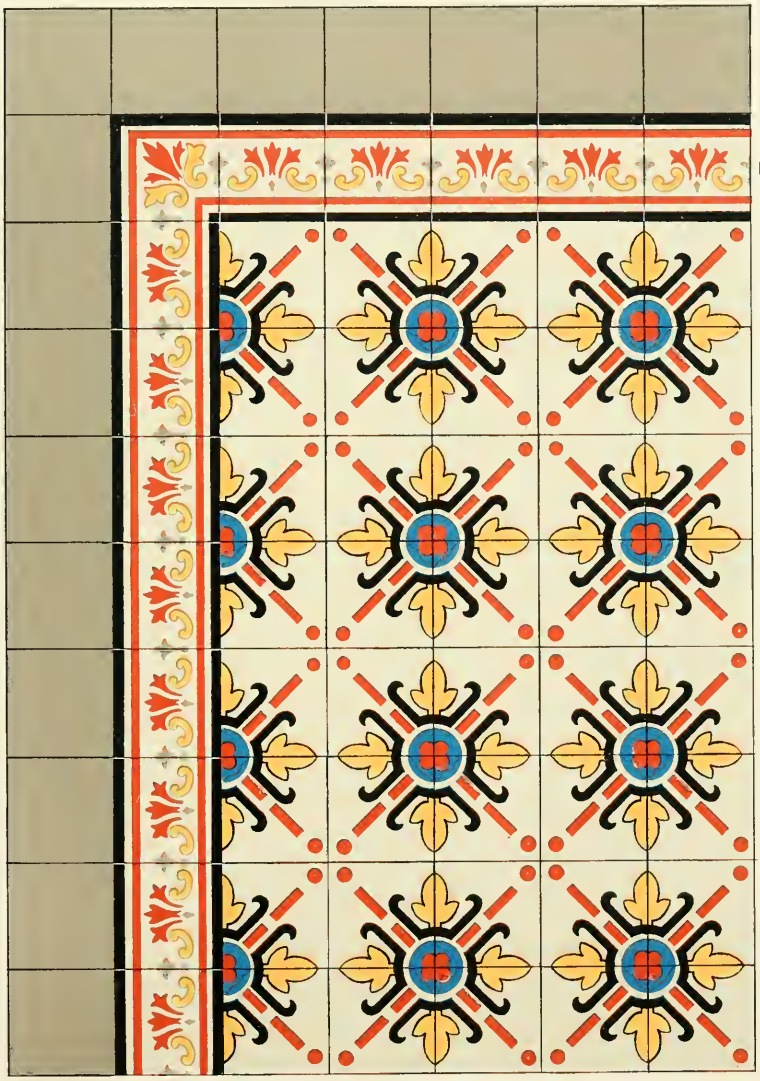
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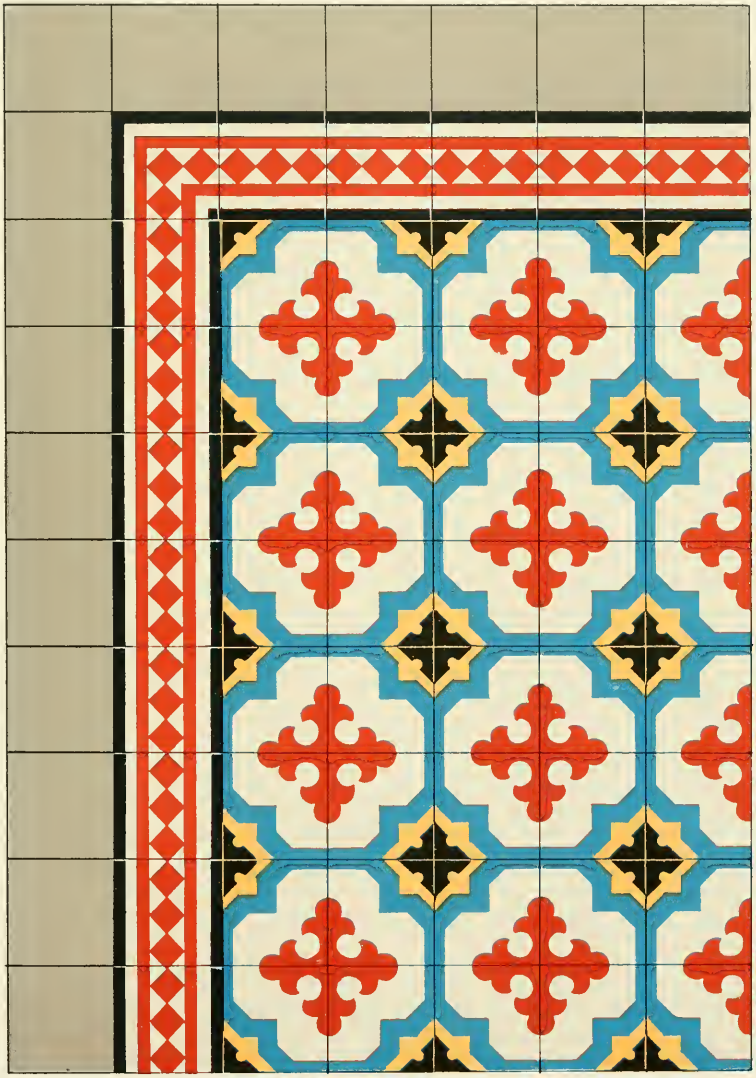
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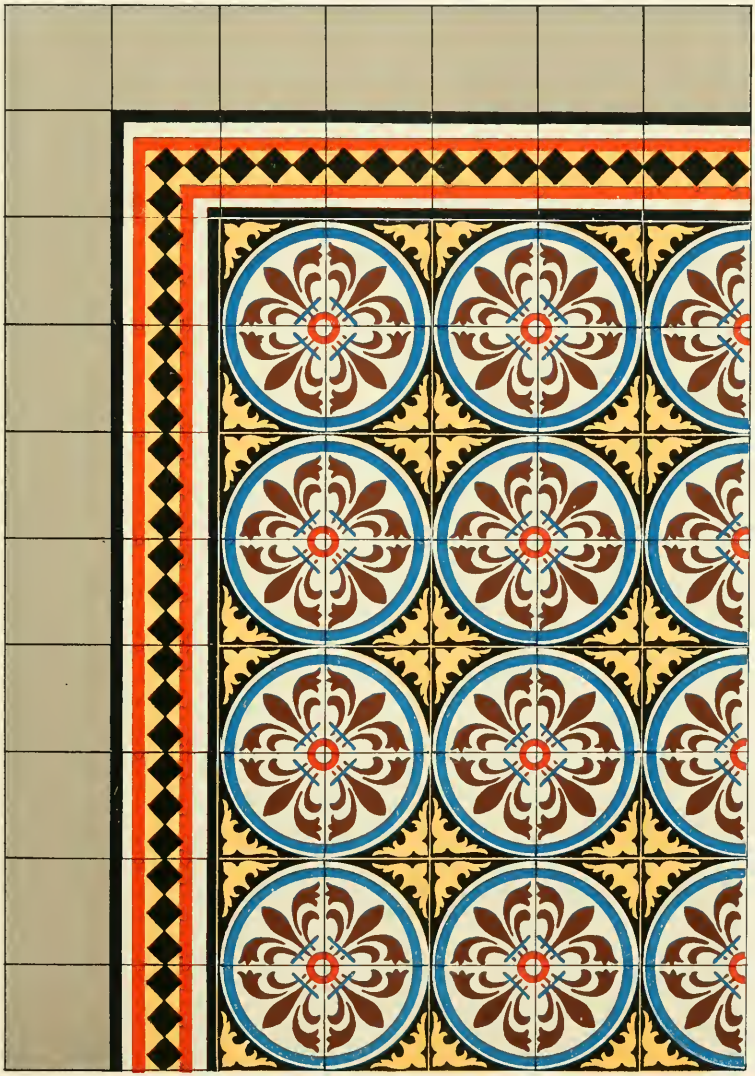
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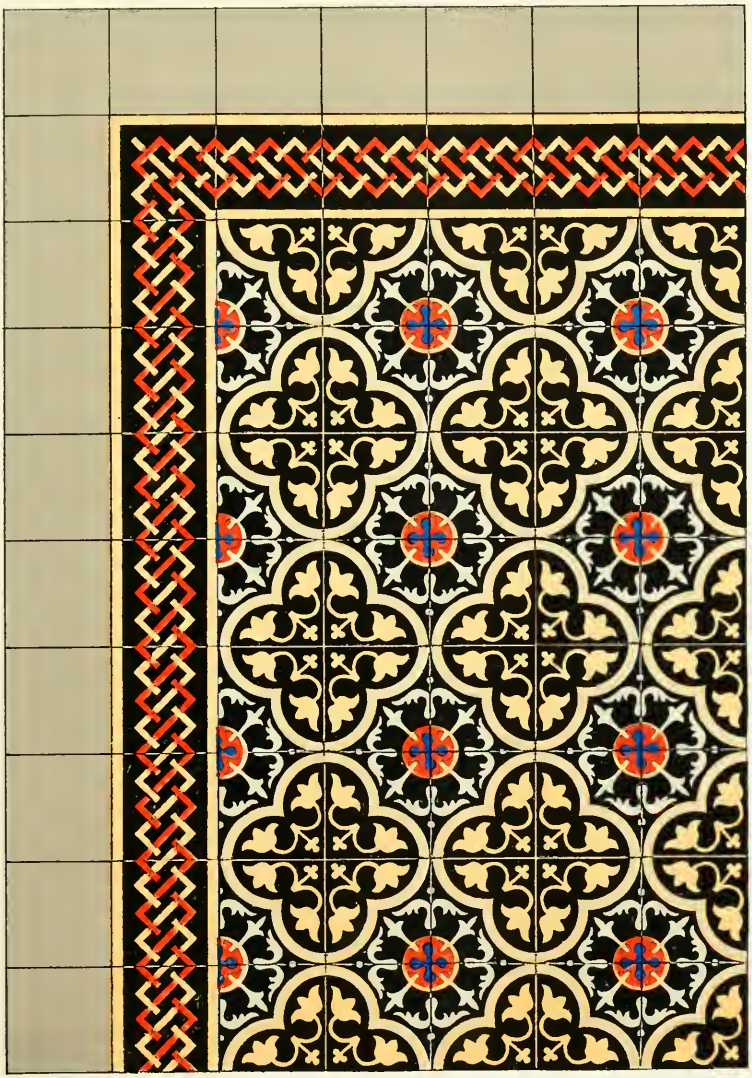
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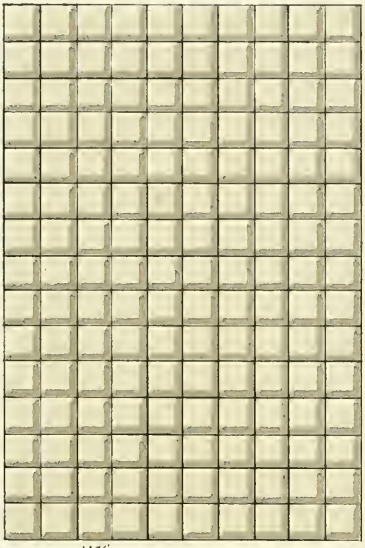


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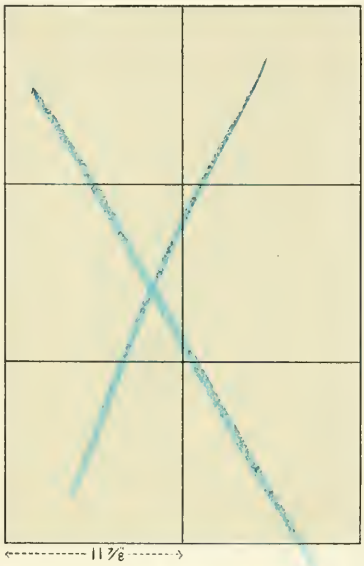
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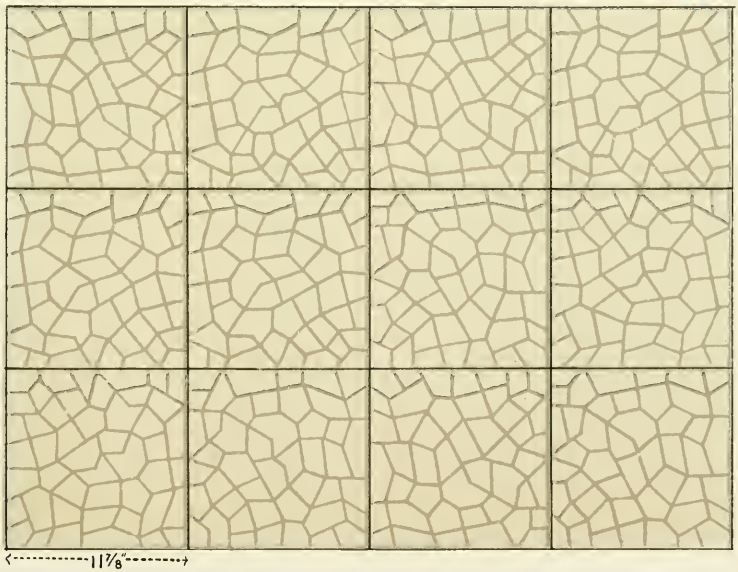
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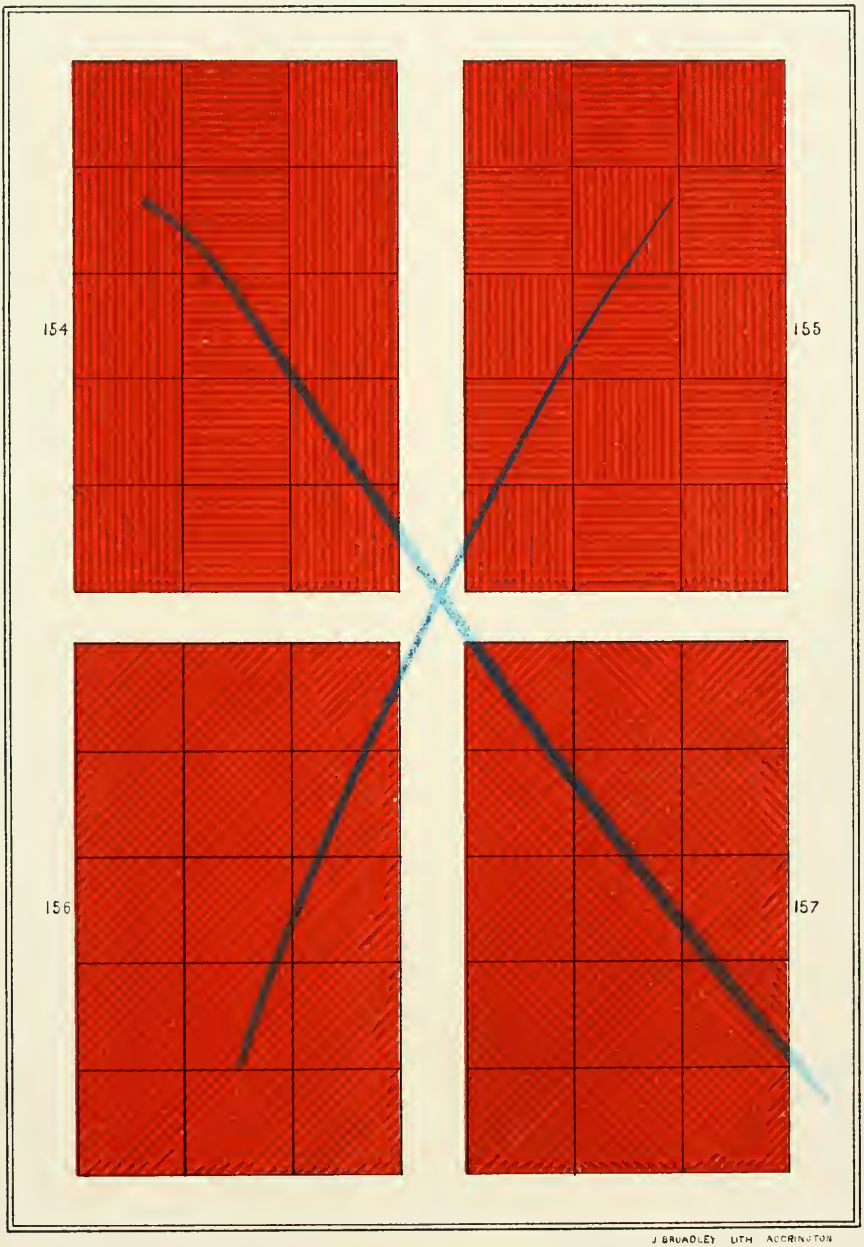


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SIZE 11⅞ × 11⅞.

THE THRELKELD GRANITE CO., LTD
Keswick, Cumberland.



J BRADLEY LITH ACCRINGTON

SIZE 7⅞ × 7⅞.

THE THRELKELD GRANITE CO., LTD
Keswick, Cumberland.

BORDERS



J.BROADLEY, LITH ACCRINGTON.

Granite and Granite-Concrete Departments.

IN addition to the foregoing, the Company have for a great number of years been highly successful in the manufacture of large quantities of granite steps and masonry, granite macadam, gravel, sand, and blocks, &c., for sea walls. The progressive character of the business will be readily inferred when we mention that ever since the year 1878 the output, which then stood at 278 tons, has gone on steadily increasing, the total amount of granite despatched from the quarry in 1893 being 65,456 tons, and in 1897, over 100,000 tons. The quarry is well provided with siding accommodation, and also with tramways, crushing plant, etc. The latter includes a duplicate set of machinery, each set consisting of two large stone breakers, and a roller mill, with combined capacity for the production of as much as 500 tons of macadam daily. Customers may consequently rely on the prompt and punctual fulfilment of orders; and even in the event of one set of machinery failing or being stopped for repairs, the other is always available. Altogether the works afford employment to some 300 hands. After having satisfactorily proved the superior quality of the Threlkeld granite as a material for setts and macadam, the Company very naturally came to the conclusion that no better rock could be secured for the purposes of making artificial stone, and as some preliminary experiments in this direction were productive of highly gratifying results, it was decided, in 1893, to lay down a large modern plant for the manufacture of granite concrete flags, window sills, window heads, mullions, steps, landings, and the like. This department has developed amazingly, and since the date mentioned the flags have been adopted in connection with several important works. Notably in the stations of the C. K. & P., and the L. & N. W. and other railway companies. It is claimed that for high-class quality and durability the Threlkeld granite concrete

flags cannot be surpassed Unlike many natural stones which decompose or decay with age, they actually increase in hardness as time progresses. They are very much more durable than asphalte, perfectly non-slippery, and as compared with three-inch York flags granite concrete flags exhibit marked advantages; as has been abundantly demonstrated by many carefully conducted trials, the results of one of which (a rubbing test), as reported by a well-known London surveyor to his vestry, we give below.

	York flag.	No. 1 Concrete flag.	No. 2 Concrete flag.	No. 3 Concrete flag.
Thickness before being rubbed ...	$2\frac{1}{4}$	$2\frac{8}{48}$	$2\frac{1}{48}$	$2\frac{9}{48}$
First hour	$2\frac{3}{24}$	$2\frac{1}{24}$	$2\frac{1}{48}$	$2\frac{4}{24}$
Second hour	$2\frac{3}{48}$	$2\frac{1}{48}$	2	$2\frac{7}{48}$
Third hour	$2\frac{5}{48}$	2	$1\frac{23}{24}$	$2\frac{6}{48}$
Total wear in three hours ...	$\frac{11}{48}$	$\frac{3}{48}$	$\frac{3}{48}$	$\frac{3}{48}$

It will thus be seen that the "wear" of the concrete flags is exactly one-sixth of an inch less than that of York stone. A further point in their favour is to be found in their exceptional density, by virtue of which they minimise the absorption of moisture to an altogether unparalleled degree, the total absorption after seven days' immersion being less than two per cent. As a consequence they are entirely impervious to the effects of frost.

GRANITE CONCRETE FLAGS.

The Granite Concrete Flags for footways, etc., are manufactured at the Company's works under the strictest supervision. The granite used is the same as that which has given universal satisfaction as macadam, paving setts, kerbing, etc.—and earned a reputation second to none for its non-slippery nature—and the Portland cement used is of a special quality, and subjected to the highest tests by the Company's manager before being used.

The flags are accurately moulded, and need no hand-dressing whatever. The edges are more even than any other description of flags, and when laid they form a beautiful and even footway. Being made in fixed sizes they are easily and cheaply laid, and there is no waste in cutting; but when necessary the flag can be cut like ordinary stone.

Every flag is thoroughly tested and seasoned before being sent out, and, as many thousands of yards are always maturing, customers may rely on a speedy delivery of large orders.

DIMENSIONS OF FLAGS.

Ft.	In.		Ft.	In	
3	0	×	2	0	by $2\frac{3}{16}$-in. full thickness.
2	9	×	2	0	
2	6	×	2	0	
2	3	×	2	0	
2	0	×	2	0	
1	6	×	2	0	
3	0	×	2	6	
2	6	×	2	6	
Ft.	In.		Ft	In.	
4	0	×	2	0	2½-in. thick.
3	6	×	2	0	
3	0	×	2	0	
2	6	×	2	0	
2	0	×	2	0	

It will be noted that the flags manufactured by us are about three-sixteenths of an inch more than those made by other makers, which increases the strength of the Threlkeld granite concrete flags at least 20 per cent. over others.

These flags have a bearing capacity equal to any 3-in. natural stone flags.

Advantages over York and other Natural Stone Flags.

Granite concrete flags have the following advantages over York and other stone, viz. :—

They are more durable.

Never wear slippery.

The material is of the same hardness throughout, thus ensuring uniformity of wear.

They are of even thickness.

No dressing of joints is necessary as the edges are perfectly square.

No laminations or scalings.

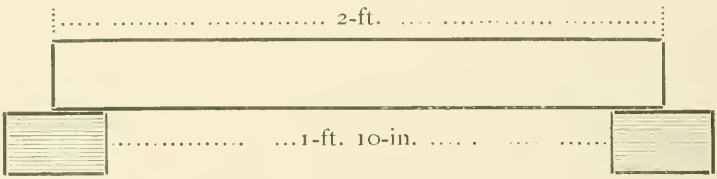
Cheaper to lay.

Thoroughly impervious to frost, and damp proof.

Owing to the great absorptive powers of many York and other flags, the stone has a tendency to laminate under severe frost by the expansion of the moisture becoming frozen, causing the stone to disintegrate.

To give an idea of the strength of a flag 2⅛-in. full in thickness, one 2-ft. by 2-ft. was placed thus :—

Having 1-in. bearing on two sides only, and was weighted with iron blocks distributed over its surface, the flag sustaining a total weight of 20½-cwt. without breaking.



10	Super. Yards	Flags	$2^{3}/_{16}$-in.	thick	weigh 1 ton.
8	,,	,,	$2\frac{1}{2}$-in.	,,	,,
40	,,	,,	$2^{3}/_{16}$-in.	,,	make a small truck load (4 tons)
32	,,	,,	$2\frac{1}{2}$-in.	,,	,, ,, ,,

METHOD OF LAYING.

Prepare a good, well consolidated bed, with a top layer of ashes or other fine, dry material, and on this spread a thin layer of soft mortar. If attention is paid to these particulars a granite concrete footway will last a century.

Some districts where Threlkeld Flags are laid.

Threlkeld Granite Concrete Flags have been laid with conspicuous success in the following cities and towns, viz. :—Atherton, Belfast, Bootle, Bowness, Blackpool, Birkenshaw, Carlisle, Cockermouth, Chorley, Chester, Dalton, Garston, Golborne, Gomersal, Horwich, Horsforth, Haydock, Ince-in-Makerfield, Keswick, Keighley, Kendal, Leeds, Liverpool, Leigh, Maryport, Ormskirk. Preston, Penrith, Pemberton, Roundhay and Seacroft, Southport, St. Bees, Sheffield, Swansea, Skelmersdale, Sale, Sandal Magna, Ulverston, Warrington, Wallasey, Wolverhampton, Wakefield, Wigan, and Whitehaven.

Threlkeld Syenitic Granite as a Road Material.

The Threlkeld granite has been practically used and tested for the last twenty years in the shape of Paving Stones, Macadam, Kerbing, and Channelling by the following local authorities and public companies :—

Accrington	Harrogate	North Bierly
Arlecton & Frizington	Halifax	Nelson
Burnley	Huddersfield	Otley
Blackburn	Hindley	Padiham
Blackpool	Horwich	Preston
Bolton	Handsworth	Pontefract
Bury	Keswick	Penrith
Bacup	Keighley	Rochdale
Bradford	Kendal	Rothwell
Birstal	Lytham	Ramsbottom
Batley	Liverpool	Rishton
Clayton-le-Moors	Leeds	Sheffield
Cleator Moor	Lancaster	Southport
Colne	L. & N. W. Railway Co.	Todmorden
Chorley	L & Y. Railway Co.	Turton
Carlisle	Leyland Hundred	Tyldesley
Cockermouth	Malton	Ulverston
C. K. & P. Railway	Middleton	Whitehaven
Cumberland County Council	Midland Railway Co.	Wigan
	Manchester	Walton-le-Dale
Denholme	M. & C. Railway	Whittingham C. Asylum
Darwen	Milnrow	Westmoreland C. Council
Doncaster	Newcastle-on-Tyne	Wuerdale and Wardle
Farnworth	North-Eastern Railway Co.	York

And a large number of other local authorities and public bodies too numerous to mention.

Nine tons of Threlkeld granite will cover as much area as ten tons of Whinstone or Welsh granite, and when comparing our prices against limestone, please bear in mind that limestone will have to be laid on three or four times, whereas granite only laid once will last the same time, and consequently there will be four tons of limestone to be carted on, for one ton of granite, and three or four times more labour would be required to scrape off and cart away the extra quantity of dirt made by the limestone.

We may add generally that whilst some granites are represented as having a higher specific gravity than the Threlkeld rock, long experience has proved conclusively that the hardness of a stone has very little to do with its specific gravity. Thus quartz flint, Whinstone, Guernsey

granite and trap rock are the hardest and at the same time the weakest of road metals. In fine, the quality which gives strength and durability to such metal is toughness and not hardness, and the former quality can be found in rocks with either high or low specific gravity. It may be safely said that the Threlkeld granite has no superior in point of toughness, and this fact has been over and over again proved by the behaviour of macadam and setts subjected to the ever varying conditions of exposure to frost, sun, and water, under heavy wear and tear in busy cities and main roads. Other granites may be quoted at lower figures, but we have no hesitation in asserting that on trial they will be found to be very inferior. Most of the Welsh granites, to cite an instance, are large grained and of little cohesion, and such granites allow the action of the rain to soak right through them, setting up disintegration of the stone at once. Hence it comes to pass that some country roads after rain become so unaccountably muddy. In the long run, a good syenitic granite, even at a seemingly high cost, represents the *beau ideal* of cheapness. Toughness, as well as hardness, is absolutely essential in a suitable macadam, and these qualities are, as we have seen, embodied to perfection in the Threlkeld granite.

Crushing Resistance of the different kinds of Stone used for Roads, as Macadam and Setts.

Crushed at lb. pressure on one sqr. inch of stone.	Crushed at tons pressure on one square inch of stone.				Pressure of tons on one square foot.	Name of Quarry.	County in which the Quarry is situated.
Lbs.	Tons.	Cwts.	Qrs.	Lbs.	Tons.		
31,912	14	4	3	20	2,052	Threlkeld	Cumberland
19,096	8	10	2	0	1,228	Markfield	Leicestershire
17,532	7	16	2	5	1,128	Mountsorrel ...	Leicestershire
15,062	6	14	1	26	970	Guernsey	Isle of Guernsey
14,071	6	5	2	15	...	Dalbeattie	Kirkcudbrightshire
13,440	6	0	0	0	...	Newry	Ireland
13,325	5	18	3	25	857	Skipton Light ...	Yorkshire
13,523	5	11	3	7	805	Skipton Dark Brown	Yorkshire

Tested at The Grove, Southwark, London, E.C, by David Kirkaldy.

The above table shows the crushing resistance of the eight leading qualities of stone used in the North-East of Lancashire and West Riding of Yorkshire for road making, in the shape of macadam or paving setts, and you will see that the Threlkeld stands at the head for resisting power ; and in addition, as a paving sett the Threlkeld granite is, from its nature, **less slippery** than any other known granite. The Leicestershire granite has a well-known reputation for its durability, and as the Threlkeld granite has more crushing resistance, it is undoubtedly superior to the Leicestershire granite, and is of a **less slippery** nature.

Twenty Years' Output.

Threlkeld granite has now been before practical Road Surveyors and Eminent Engineers for over twenty years, and that the material is appreciated as a road metal is proved by the following table, which shows the output for the last twenty years :—

Year.....	1878	1879	1880	1881	1882
Tons... ..	278	2534	3747	4354	8709
Year	1883	1884	1885	1886	1887
Tons.....	12018	12480	7556	16250	18727
Year.....	1888	1889	1890	1891	1892
Tons... ..	23068	29964	29210	40173	52000

While the output for 1893 reached about **66000** Tons.
And ,, 1894 ,, **80000** ,,
,, 1895 ,, **90000** ,,
,, 1897 ,, over **100000** ,,

These figures will prove that the practical use of the Threlkeld granite has stood the test, and that the practical trial of wear and tear is far more preferable that any scientific test.

AREAS COVERED BY ONE TON OF STONE :—

Granite Paving Setts.		Granite Kerb Stones.	Broken Granite.
SIZE.	Area 1 ton will cover.	SIZE.	To the following sizes.
Width. Depth.	About—	Flat Kerb dressed.	
3″ cubes	7½ square yards	Width. Depth.	Granite Macadam 2¼-in. gauge.
3″ × 4″	5 ,, ,,	10″ × 6″	,, 2-in. ,,
3″ × 5″	4½ ,, ,,	10″ × 8″	,, 1¾-in. ,,
3″ × 6″	4 ,, ,,	12″ × 6″	,, 1½-in. ,,
3″ × 7″	3½ ,, ,,	12″ × 8″	Granite, in lump or cob—for hand breaking.
3½″ × 6″	4 ,, ,,	15″ × 8″	
4″ cubes	5½ ,, ,,	15″ × 10″	Granite, hand broken, 2¼-in. gauge.
4″ × 5″	4½ ,, ,,	Edge Kerb dressed.	
4″ × 6″	4 ,, ,,	Width. Depth.	Granite, rough lumps for building purposes.
4″ × 7″	3¼ ,, ,,	6″ × 10″	
5″ cubes	4½ ,, ,,	6″ × 10″	Granite Gravel, ¾-in. gauge, for garden drives and park roads.
5″ × 6″	4 ,, ,,	8″ × 10″	
Dressed Randoms		8″ × 12″	Granite, crushed ⅜-in. gauge, for garden walks and concrete purposes.
Randoms		Circular Kerb of any of these sizes.	Granite Sand, for mortar—half the quantity of lime will do for this, and makes as good mortar as of ordinary sand.
		Refuge Stones.	
		Granite Steps for Stations, etc., etc.	
		Granite Masonry of all descriptions.	

One cubic yard of broken granite weighs about 18-cwt., consequently if laid 4″ thick, will cover nine square yards.

All enquiries have careful and prompt attention if addressed as below.

Threlkeld Granite Co. Limited,

(H. Harkewitz, Managing Director.)

Keswick, Cumberland.

Telegraphic Address:

"HARKEWITZ, THRELKELD."

London Office: 65 and 66, CHANCERY LANE, W.C.

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